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UNITED STATES DISTRICT COURT
NORTHERN DISTRICT OF CALIFORNIA

Before The Honorable William H. Orrick, Judge

HUAWEI TECHNOLOGIES, CO., LTD;)
et al.,)

Plaintiffs,)

VS.)

NO. C 16-02787 WHO

SAMSUNG ELECTRONICS CO., LTD.;)
et al.,)

Defendants.)

San Francisco, California
Wednesday, October 26, 2016

TRANSCRIPT OF PROCEEDINGS

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Wednesday - October 26, 2016

3:22 p.m.

P R O C E E D I N G S

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THE CLERK: Calling civil matter 16-2787, Huawei Technologies Corporation Limited, et al., versus Samsung Electronics Company Limited, et al.

Counsel, please come forward and state your appearance.

MR. PERLSON: Good afternoon, Your Honor.

THE COURT: Good afternoon.

MR. BETTINGER: Good afternoon, Your Honor. Mike Bettinger along with my colleagues Doug Lewis and Irene Yang for plaintiff Huawei.

MR. PERLSON: David Perlson with Vickie Maroulis for Samsung.

THE COURT: Good afternoon. So I'm going to give you my inclinations, and then I've got some questions that I want you to answer for me.

So I'm inclined to deny the motion to dismiss. I think with respect to the '892, Claim 1, it's purportedly tied to a particular apparatus for the specific purpose of reducing signals in a mobile communication network. The 16 cyclic shift intervals appears to be a mathematical formula, but at the pleading stage I can't say that it's patent ineligible.

Related to the second step is the reduced of cyclic shift increments appears to be the inventive concept, and I think the

1 parties analyze the '239 claim the same way and that's how I
2 was looking at it.

3 So for Samsung I guess my questions are:

4 Is any method that generates -- in your view, is any
5 method that generates a number patent ineligible?

6 Second, what's the abstract idea the '892 patent is
7 attempting to preempt?

8 And, third, how will knocking out these two patents at the
9 pleading stage impact this litigation when it's 2 of 11 patent
10 infringement claims? You're asking quite a lot of the Court.
11 And it's one thing to do these 101 arguments when it's the
12 whole ball of wax; it's another thing here. But I don't really
13 understand for sure what the relative pragmatic implications of
14 this motion are. So I'm interested in that.

15 And then with Huawei, isn't it the case that the set of 16
16 cyclic shift increments, that they're derived from a
17 mathematical formula?

18 And my second question is: Do those formulas have any
19 utility outside of the cellular transmissions?

20 Okay. So with that, why don't we go with Mr. Perlson.

21 **MR. PERLSON:** Your Honor, I do have some materials
22 really just mostly on cases and a few figures that might be
23 useful for the argument, if that's acceptable.

24 **THE COURT:** That will be great.

25 **MR. PERLSON:** Here's a copy for you obviously. How

1 many copies would you --

2 **THE COURT:** I think one is probably fine, but two is
3 even better it looks like.

4 **MR. BETTINGER:** Thank you.

5 **MR. PERLSON:** Might as well use them.

6 **MR. BETTINGER:** Yeah, sure.

7 **MR. PERLSON:** So, Your Honor, to -- I guess I'll
8 address the questions in turn.

9 I mean, first of all, the mere use of numbers in and of
10 itself, the fact that some aspect of the patent is related to
11 math, we don't submit -- we've never submitted that that alone
12 makes something not patentable. The issue here is, though, in
13 these particular claims -- and I do agree with you that -- and
14 I think that the parties have somewhat treated them similarly,
15 and the reason for that is because in both instances you have
16 basically a set procedure that's existed in the art in which
17 numbers are used in a certain way.

18 In the '892 there are these random access preambles that
19 are used at some point during the communications to identify a
20 device, and then in the '239 at a different point there are
21 these sequences that are generated that aren't used in the same
22 way but, you know, they are used also to help distinguish among
23 devices that are used in the cell.

24 And in both of these instances, these sequences are used
25 in the identical way that they have been in the art. In the

1 '892, RAPs were used. RAPs had cyclic shifts, and all the '892
2 does is identify specific integers to use in the sequence in
3 generating these cyclic shifts. That is -- that's the
4 invention. That's all that's different. So this is not an
5 instance in which we're saying that just because you're using
6 math, that it's invalid. It's because that's all that there is
7 here that's different.

8 And if you -- so, for example, if you look at the Slide 6
9 in the packet, this is from the specification of the '892, and
10 the --

11 **THE COURT:** You think somebody over there is reading
12 this?

13 **MR. BETTINGER:** It was confusing to me, so I took a
14 flyer, Your Honor.

15 (Laughter)

16 **MR. PERLSON:** Column 3, line 9 and 18, from the spec
17 talks about how there's this proposal out there and how to use
18 preambles, but the problem with it is that there's no way to
19 restrict the values of these cyclic shift instruments that were
20 known.

21 And so what the patents add to it -- and if you go to the
22 next page -- is just a set of preambles, and that includes
23 specific cyclic shift instruments. It's numbers. So all they
24 added here was the specific numbers to choose amongst and based
25 on math.

1 And even in -- and this is what they pointed to in the
2 prosecution history. On the next page in the interview
3 summary, which was Exhibit A to our motion, says the applicant
4 argued that this particular shift increment is not disclosed by
5 the AAPA, the prior art, distinguishing months.

6 And here, too, even in their -- in Huawei's briefs as
7 shown on Slide 9, on both -- in their opposition on page 7 they
8 point to the selection of particular cyclic shifts as what is
9 new here.

10 So essentially it's just numbers, and that's all there is.
11 They've just chosen different numbers to use for something that
12 is indisputably already existent in the art. So this is far
13 different than saying, "Okay. We're going to calculate
14 something and then we're going to do another step and then
15 we're going to do another step and then we're going to use that
16 for this. And, by the way, no one's ever used that for this
17 before."

18 All this is doing is using a totally set process that was
19 already established and then applying, you know, a different
20 way of -- allegedly of selecting numbers based on math. And
21 it's a mathematical solution to the alleged problem.

22 And that is specifically what the courts have repeatedly
23 held you cannot do. And on page 10 we cite, you know, this
24 is -- no one really disputes this stuff and *Mayo* says you can't
25 patent math.

1 So that, I think, really goes to your first question.

2 And then -- I'm sorry. You know what? The second one --

3 **THE COURT:** What's the abstract idea of the '892 --

4 **MR. PERLSON:** That is the abstract idea. The abstract
5 idea is exactly in the claims, which is, if you look in the
6 claim on -- in Claim 1 on page 7 in the materials, it's
7 selecting the set of random access preambles according to the
8 numerical math that the claim requires. That's it.

9 And if you look at the -- and I know Your Honor didn't ask
10 about it specifically but real quickly in Step 2, they actually
11 point to the very same thing as the supposed inventive concept.

12 In terms of I guess the third point that you asked on the
13 practical differences, I'll explain the reason why we chose
14 these two first. And we thought that especially at the
15 pleading stage that these two were particularly worthy of
16 dismissal under 101 because both of them so clearly are
17 directed at math and add no inventive concept.

18 It was, we thought, a simple way to -- at least to start
19 to narrow the case. I mean, obviously throughout the case
20 there will likely be narrowing based on various things and this
21 is, you know, one of those.

22 I mean, in our view they're clearly invalid patents. They
23 shouldn't be in the case in the first place. And, you know --
24 you know, I agree that dismissing these two is not going to get
25 rid of the entire case; but if they shouldn't be there in the

1 first place, it's a place to start.

2 **THE COURT:** You're totally entitled to bring it, and
3 I'm totally obligated to figure it out. I'm just wondering
4 what -- patent cases I can never see around the corners very
5 well, and so I'm just trying to figure -- I'm trying to get
6 some help in seeing around the corners.

7 **MR. PERLSON:** Well, I think, Your Honor, and perhaps
8 harken back a little bit to the conference we had earlier. I
9 mean, you know, Samsung -- I recognize that there's
10 infringement aspects and other aspects of this case, but
11 Samsung is a patent defendant in this case and we take those
12 allegations very seriously; and, you know, we feel that if it's
13 not going to get rid of every patent, that it is a patent that
14 they brought in this case and is appropriate for dismissal.
15 And, you know, you have to start somewhere, and this is an
16 important beginning process of the vetting process and two
17 patents that largely rise and fall on the same issue.

18 And I really do -- I think that the one thing to really
19 get across, though, is that this is absolutely not an instance
20 in which just because there's math involved that it's invalid.
21 It's because everything else in there is admitted in the prior
22 art, not in the patents themselves -- I don't think there's any
23 dispute about that -- and that everything that it's pointing to
24 that's beyond that is math.

25 And given the law that is so clear that you can't do that,

1 this just -- these are just patents that shouldn't be in the
2 case at all, Your Honor.

3 **THE COURT:** Okay. Thank you.

4 Mr. Bettinger.

5 **MR. BETTINGER:** Yes, Your Honor.

6 Maybe taking a part of the third question first as a
7 context, in just listening to the argument and reading the
8 papers, this is dense material. It's complex. You're dealing
9 with complex numbers which involve imaginary numbers. You've
10 got lawyers trying to explain it to you when really you should
11 have experts trying to explain it to you.

12 This is early in the case, for these particular patents,
13 to get the background one would need to really understand what
14 is -- what we're talking about. It is something we wrestled
15 with in responding to the papers to try to give the Court some
16 context.

17 So I do think as the case progresses and some of these
18 other patents -- and just for a little background, in the LTE
19 space, which this is, the telecommunications space, we're
20 really dealing with the device, the cell phone, connecting to
21 the base station, and it's that -- those are radio signals, and
22 so that's what these patents are going to be about in this
23 case.

24 So here you have the random access preamble, which is how
25 you attach; and then once you've attached, how you communicate

1 and not interfere between cells. It is complex material. So
2 it does come early in the case.

3 I do think maybe there could be an appropriate time once
4 everything gets put into context, but this early in the case
5 strikes me as being too early for the reasons just heard. You
6 just don't make the connections you need to understand what's
7 being discussed.

8 **THE COURT:** Well, you're singing to the choir, but now
9 why don't you now deal with the specific arguments Mr. Perlson
10 made.

11 **MR. BETTINGER:** So to the first point, here's a
12 fundamental. Numbers. Just because you use numbers, doesn't
13 mean it's patent ineligible. I think we all agree on that.
14 That's *Mayo*. The Supreme Court has come down with that.

15 But the last point counsel made is where the fundamental
16 difference lies. To say that you can look at all the elements
17 and say, "Oh, those are obvious so the only thing left is
18 numbers and that's how we're going to analyze it," that's what
19 the Supreme Court *Flook* analysis was in 1978. Three years
20 later, the *Diehr* case came down, and that analysis was rejected
21 and says, no, you look at the claims as a whole.

22 And the Supreme Court language in *Diehr*, which is
23 controlling law, it's the Supreme Court, when a claim
24 containing a mathematical formula implements or applies that
25 formula, implements or applies that formula in a structure or

1 process which when considered as a whole, not just isolated to
2 the math but when considered as a whole is performing a
3 function which the patent laws were designed to protect, then
4 the claim satisfies the requirements of 101.

5 And that's --

6 **THE COURT:** So if you -- do you accept, then,
7 Mr. Perlson's statement that everything else except for the
8 math was known in the prior art?

9 **MR. BETTINGER:** No, not when you get into the
10 limitations in some of these claims. That's not correct in
11 this particular situation. But even if it were, that doesn't
12 mean you only focus for purposes of the 101 analysis on that
13 numbers element. You have to look at the claim as a whole.

14 That's what Your Honor did in the *Marvel* case. The same
15 issue came up. That's a mathematical formula in *Marvel*. And
16 in analyzing it, you rightly stated the method here has
17 additional limitations, and that's what you looked at and said
18 this isn't an abstract idea because even though all those other
19 limitations -- in there it was encoders -- may have been known
20 in the industry, the fact that they were combined with the math
21 doesn't mean you ignore them for purposes of the 101 analysis.

22 So to suggest that's the case -- and that really is the
23 tenor of their paper, throw out everything else because it was
24 known, look at just the one element -- it's numbers, you can't
25 patent numbers, and that's the analysis, that's just not right.

1 That's not where the law is. That's not where it was in *Diehr*.
2 It's not where the Federal Circuit has said since *Digitech*
3 announced that very point as you did in your *Marvel* case.

4 So in this case that's what we submit, is when you look at
5 this, you're not -- if you look at the claims as a whole, as
6 you noted in your opening remarks in summarizing the patents,
7 they aren't directed to just numbers.

8 A cyclic shift is a complex -- I mean, I could go into it,
9 but just from a lawyer's perspective, the term "a sequence," I
10 think, is referring to, I think, as just a pattern, it's just a
11 pattern of numbers, but it's not. What a sequence is, is a
12 series of elements that represent modulation, so that's
13 amplitude and phase.

14 Because, remember, what we're talking about here is radio
15 signals, and so a sequence is a series of elements; but it
16 represents something else, modulation, and it's a very complex
17 cobble. So you're dealing with sequences to have specific
18 cyclic shifts. And we said in a footnote briefly, but a cyclic
19 shift if you had A, B, C, D, E, F, you take the F and put it in
20 front, you've cyclically shifted it.

21 Well, what happens and what the patents -- the '329 -- the
22 '892 patent says is, the further out you go in a cell, the
23 longer it takes for that device to communicate with the base
24 station because the speed of the sound.

25 So you have to take that into account. And so what the

1 patents are describing is, "Look, we've come up with optimal
2 cyclic shifts for these sequences so that if you use those at
3 different parts in the cell, you know that you're going to meet
4 the requirement that your signal doesn't get there too late or
5 too early."

6 And so there's a whole -- and experts would be able to
7 explain there's a whole reason why these particular 16 numbers
8 were chosen. It was the result of math, but that math isn't
9 just math that's being patented. It's saying, "Now use it.
10 Now use that calculation when you're going to now do your
11 random access preamble and connect, use that cyclic shift on
12 your sequence. Make it so many places over, and then that will
13 give you an optimal -- you won't have interference or you'll
14 minimize your chances of having interference."

15 And so that's what the patents here are directed at when
16 you look at them as a whole and not try to isolate just the
17 numbers element.

18 **THE COURT:** Okay.

19 **MR. BETTINGER:** I thought your second question had to
20 do with maybe preemption, but maybe I misheard it.

21 **THE COURT:** The second question to you was: Do
22 formulas have any -- do these formulas have any utility outside
23 of the cellular transmissions?

24 **MR. BETTINGER:** I'm sorry. Yeah, my questions, right.
25 So you did ask -- I was responding to his. Sorry.

1 You asked about the 16 cyclic shifts, are they derived
2 from a formula. There is a formula as set out in the pages and
3 pages of specification at which you arrived at what's the
4 optimal cyclic shift based upon where you are in the cell, but
5 that's not what's claimed. What's claimed is now use that in
6 your device.

7 **THE COURT:** I got that from your last --

8 **MR. BETTINGER:** Okay.

9 **THE COURT:** But how about the second question?

10 **MR. BETTINGER:** Yeah, utility. So it's at a couple of
11 levels. One, sequences are used in all other -- many other
12 disciplines. It's not unique to telecommunications. And
13 cyclic shifting of sequences is used in other disciplines. The
14 way it's particularly used here is unique to this industry, but
15 the concept of sequences in other scientific areas and the
16 concept of cyclically shifting so you don't have confusion
17 between the two is used in other disciplines.

18 In this case, and this kind of goes a little bit to the
19 preemption, but we selected specific cyclic shifts, said, "Hey,
20 these are optimal based on what we've determined and use those.
21 You don't have to. You can use whatever cyclic shift you want
22 if you think it's better."

23 Now, I -- what happens is there's a standard underlying
24 this and the standard has now agreed with us and adopted,
25 "Yeah, that's what we think you should be using for these

1 cyclic shifts."

2 So that informed our analysis. You don't have to use it.
3 You could use something else if you wanted to. So from that
4 standpoint there is -- it doesn't address your point directly
5 about is utility outside of this, but it does address that
6 these are only certain cyclic shifts that we're talking about.
7 There are a whole number of others that could have been chosen.
8 These sometimes the representations can be 538 characters long.
9 So you can have a variety of cyclic shifts.

10 **THE COURT:** Okay. Mr. Perlson.

11 **MR. PERLSON:** Yes, Your Honor. I'll respond to a few
12 things.

13 First of all, yes, you look at the whole claim and that's
14 precisely what we've done and argued with; but when you look at
15 the claim, what you're supposed to do is see what the claim is
16 directed to. That is what the Federal Circuit -- that's step
17 one of *Alice*. And as we show on page 4, we have from the
18 *Genentech* case it says the focus of the claimed advance over
19 the prior art, that's what you focus on when you're -- as it's
20 directed to, and the same is true in the Internet patents case.
21 You're supposed to look at what's new. That's what it's
22 directed to.

23 And here there's no dispute that everything else other --
24 that's in the claim -- and, again, I have it on page 7 here --
25 is -- was there before. You selected by user equipment random

1 access preamble. So that was done. No dispute about that.

2 And you transmitted them. No dispute about that.

3 The only thing that they're claiming is new is that it's
4 from this set of mathematical numbers. Now, that's in -- so --
5 and that's the same type of thing that the court was talking
6 about in -- I think it was in *Flook*. It talks about the -- and
7 I have this quote on page 19. This is from the 437 U.S. 594.
8 It says, you know (reading):

9 "Even though a phenomenon of nature or mathematical
10 formula may well be known, an inventive application of the
11 principle may be patented. Conversely, the discovery of
12 such a phenomenon cannot support a patent unless there is
13 some other inventive concept in its application."

14 And it refers to the Pythagorean theorem and says, this is
15 a great thing and figured it out and now we're applying it to
16 something and that's a no-no.

17 That's exactly what we have here, Your Honor. They say
18 they've done all this work and they've put all these formulas
19 in the spec, and they just plopped them in in a set of numbers,
20 but that's exactly what that you're not allowed to do. That's
21 exactly trying to patent an algorithm.

22 And, again, especially the fact that they've pointed to
23 nothing else as the inventive concept, there is nothing more.
24 Through everything that counsel said, at no point was there
25 ever a suggestion that there was anything new in the patent

1 other than the application of this math.

2 There's no suggestion that the circumstances in which that
3 math was used is different than other circumstances, that the
4 cyclic shifts were used. This is just a different way of
5 assigning them based on math and that the sequences are
6 assigned. They just have a new mathematical way of doing that.

7 But the sequences are used in the exact same way that they
8 are used before and the random access preambles are used in the
9 exact same way they were before. The only difference, and
10 we've heard nothing to the contrary and nothing in their papers
11 which actually support what I'm saying, that the only inventive
12 thing here is math.

13 **THE COURT:** All right. Any last word from you,
14 Mr. Bettinger?

15 **MR. BETTINGER:** I think I would be repeating myself.
16 I just would reiterate that the *Flook* rationale that you
17 isolate just that math is not the law. *Diehr* tells us it's not
18 the law. You know. You told us it's not the law.

19 So thank you.

20 **THE COURT:** Well, I think you shouldn't listen to me
21 as opposed to the Supreme Court. I think that's sort of a
22 wise --

23 **MR. BETTINGER:** Well, honestly, I think you and
24 Judge Pfaelzer tried to roll up your sleeves and look at all
25 those cases and come to grips with what are we talking about

1 here.

2 **THE COURT:** All right. Thank you both for your
3 argument. I'll try to deal with this. I do think these 101
4 issues are hard, particularly at the outset of a case, but I
5 also realize that I've got to deal with it so I will. Thank
6 you.

7 **MR. BETTINGER:** Thank you for your time, Your Honor.

8 **THE COURT:** Yeah.


9 (Proceedings adjourned at 3:48 p.m.)

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13 **CERTIFICATE OF REPORTER**

14 I certify that the foregoing is a correct transcript
15 from the record of proceedings in the above-entitled matter.

16
17 DATE: Monday, November 7, 2016

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22 _____
23 Jo Ann Bryce, CSR No. 3321, RMR, CRR, FCRR
24 U.S. Court Reporter
25